BILLING CODE: XXXX

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

50 CFR Parts 223, 224, and 226

[I.D. XXXXXX]

Endangered and Threatened Species: Proposed Policy on the Consideration of Hatchery Production in Endangered Species Act Listing Determinations for Pacific Salmon and Steelhead

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of proposed policy.

SUMMARY: The National Marine Fisheries Service (NMFS) is issuing a proposed policy that will address the role of hatchery produced Pacific salmon (Oncorhynchus gorbuscha, O. keta, O. kisutch, O. nerka, O. tshawytscha,) and steelhead (O. mykiss) in listing determinations under the Endangered Species Act of 1973 (ESA) as amended. This proposed policy supersedes an interim policy on artificial (hatchery) propagation published in the Federal Register on April 5, 1993. The previous policy requires revision due to a September 12, 2001, order by the U.S. District Court in Oregon, which held that NMFS made an improper distinction under the ESA by not listing certain artificially propagated salmon populations that were considered a part of the same "distinct population segment"(DPS) as listed natural populations. This proposed policy is intended to ensure, in accordance with the Court's ruling, that hatchery populations are listed under the ESA when appropriate. This proposed policy will also more clearly articulate how the agency will consider artificial propagation in conducting ESA status reviews for Pacific salmon and steelhead, and how these analyses relate to a listing determination of threatened or endangered under the ESA. This policy applies only to Pacific salmon and steelhead and only in the context of making ESA listing determinations. NMFS also plans to provide separate guidance on how artificial propagation programs can contribute to salmon and steelhead conservation.

DATES: Information and comments on the proposed policy must be received by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN FEDERAL REGISTER]. Public meetings on this proposal will be held from 6:30 p.m. - 9:00 p.m. at the following locations: [LIST LOCATIONS XXX] (see ADDRESSES). Comments on this proposal must be received at the appropriate address or fax number (See ADDRESSES), no later than 5 p.m. on [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN FEDERAL REGISTER].

ADDRESSES: The public meetings will be held at [LIST LOCATION ADDRESSES]. Information and comments on this proposed policy should be submitted to Chief, Protected Resources Division, NMFS, 525 NE Oregon Street - Suite 500, Portland, OR 97232. Comments may also be sent via facsimile (fax) to 503-230-5435, but will not be accepted if submitted via e-mail or the Internet. [NWR is investigating the possibility of accepting comments via the web]

FOR FURTHER INFORMATION CONTACT: Garth Griffin, NMFS, Northwest Region, (503) 231-2005; Craig Wingert, NMFS, Southwest Region, (562) 980-4021; or Chris Mobley, NMFS, Office of Protected Resources, (301) 713-1401.

SUPPLEMENTARY INFORMATION:

Listing Species Under the Endangered Species Act

NMFS is responsible for determining whether species, subspecies, or distinct population segments of Pacific salmon (Oncorhynchus spp.) and steelhead (O. mykiss) are threatened or endangered under the ESA (16 U.S.C. 1531 et seq). To be considered for listing under the ESA, a group of organisms must constitute a "species," which is defined in section 3 of the ESA to include "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature." NMFS has determined that, to qualify as a DPS, a Pacific salmon or steelhead population (or group of populations) must be substantially reproductively isolated and represent an important component in the evolutionary legacy of the biological species. A population (or group of populations) meeting these criteria is considered to be an "evolutionarily significant unit" (ESU) (56 FR 58612, November 20, 1991). In its listing determinations for Pacific salmonids under the ESA, NMFS has treated an ESU as constituting a DPS under the ESA.

Section 3 of the ESA defines an endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range" and a threatened species as one "which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." The statute lists factors that may cause a species to be threatened or endangered (ESA section 4(a)(1)), but it does not provide further guidance on how NMFS is to determine the risk of extinction or the likelihood of endangerment. Nor does the statute give specific guidance on how the presence of captive or artificially propagated populations might influence a listing determination.

Section 4(b)(1)(A) of the ESA requires NMFS to make listing determinations based solely on the best scientific and commercial data available after conducting a review of the status of the species and after taking into account efforts being made to protect the species. Accordingly, in making its listing determinations, NMFS first determines whether a population or group of populations constitutes a "species" under the ESA, and determines the species' status and the factors that have led to its decline. NMFS then assesses protective efforts being made to determine if they mitigate threats to the species. In evaluating existing protective efforts, NMFS relies on a joint NMFS-U.S. Fish and Wildlife Service (USFWS) "Policy on Evaluating Conservation Efforts When Making Listing Decisions" (the "PECE policy"; XX FR XXXXX; XXXX XX, 2002).

Pacific Salmonids and the ESA

Pacific salmon and steelhead ESUs in California and the Pacific Northwest have suffered broad declines over the past hundred years. NMFS has conducted status reviews of six species of Pacific salmonids in California, Oregon, Washington, and Idaho, identifying 51 ESUs and listing 26 ESUs as of September 2001. Most of the listed ESUs have associated hatchery populations (artificially propagated members of the species released into habitats within the geographic range of the ESU) and in many cases the abundance of fish from hatcheries far exceeds that of "natural" fish (fish that were produced by natural spawning in the natural environment, regardless of the origin of their parents).

In assessing the status of salmon and steelhead ESUs in its past reviews, NMFS has focused on whether the naturally spawned fish are self-sustaining in their natural ecosystem over the

long term, consistent with NMFS' interpretation of the ESA's purpose and language. NMFS listed as "endangered" those ESUs whose naturally spawning populations were found to have a present high risk of extinction, and listed as "threatened" those ESUs likely to become endangered in the foreseeable future (that is, whose present risk of extinction was not high, but whose risk of extinction was likely to become high within a foreseeable period of time).

In making these determinations, artificial propagation was generally taken into account as a factor for decline for an ESU, but in general NMFS did not explicitly consider whether the existence of a hatchery population or populations might reduce the risk of extinction or the likelihood of endangerment for an ESU (the listing of Snake River fall chinook, however, is an exception; 57 FR 14653; April 22, 1992). If NMFS determined that naturally spawned fish were threatened or endangered, the agency then considered whether associated hatchery populations were part of the ESU, focusing on their origin and their similarity to locally adapted natural fish. Factors included in this consideration were: genetic, life history, and habitat use characteristics; the degree to which the characteristics of the population may have been altered over time; and other factors that would affect their biological usefulness for recovery. Under NMFS' interim artificial propagation policy for Pacific salmon and steelhead (58 FR 17573, April 5, 1993), hatchery salmon and steelhead found to be part of the ESU were listed under the ESA only if they were considered essential for recovery (i.e., if it was determined that the hatchery population contains a substantial portion of the genetic diversity remaining in the ESU).

Hundreds of hatcheries produce Pacific salmon and steelhead to meet treaty and trust obligations to Indian tribes, to provide for commercial and sport fisheries, and also to mitigate for the impacts of development projects (e.g., hydropower, irrigation, flood control). NMFS did not list most hatchery fish, reasoning that protecting hatchery fish would not contribute to the ESA's goal of healthy naturally reproducing populations, would place an unnecessary burden on Indian tribes and other harvesters who benefit from hatchery production, and would greatly increase the permitting requirements for stakeholders (e.g., under ESA section 10(a)(1)(A)). Recently, however, in Alsea Valley Alliance v. Evans (161 F. Supp. 2d 1154, D. Oreg. 2001; Alsea decision), the U.S. District Court in Eugene, Oregon, set aside NMFS' 1998 ESA listing of Oregon Coast

coho salmon (O. kisutch), and ruled that the ESA does not allow NMFS to list a subset of a DPS by excluding hatchery fish within an ESU from listing. Although the Court's ruling affected only one ESU, the interpretive issue raised by the ruling called into question nearly all of the agency's Pacific salmonid listing determinations.

In response to the Alsea decision, NMFS announced it would revise its policy on how it considers hatchery populations in making ESA listing determinations (67 FR 6215; February 11, 2002). This rulemaking is intended to address this issue. An appeal by appellant intervenors in the Alsea case is pending before the U.S. Court of Appeals for the Ninth Circuit. The Court has stayed the District Court's order pending resolution of the appeal (Alsea Valley Alliance v. Evans, 9th Circuit appeal, No. 01-36071, December 14, 2001). Notwithstanding the appeal and stay, and regardless of the outcome of the appeal, NMFS continues to see value in revising and clarifying its policy regarding the role of artificial propagation in ESA listing determinations for Pacific salmon and steelhead. Although the NMFS/USFWS Policy Regarding Controlled Propagation of Species Listed Under the ESA (65 FR 56916; September 20, 2000) exempted Pacific salmon from its application (65 FR at 56921), this proposed policy is intended to be consistent with the joint policy and provides more specific guidance for considering artificial propagation issues particular to Pacific salmon and steelhead ESA listing determinations.

Artificial Propagation of Pacific Salmon and Steelhead

Hatcheries and other forms of artificial propagation have been used for many decades to increase the number of salmon available for harvest. More recently, artificial propagation is being used experimentally to conserve and rebuild weak runs. Central to this rulemaking is determining how to take hatchery fish into consideration when making ESA listing determinations.

What does the ESA say should be the focus of ESA listing determinations?

The ESA states that one of its purposes is "to provide a means whereby the ecosystems upon which endangered species or threatened species depend may be conserved" (ESA section 2(b)). The legislative history suggests that Congress was concerned with the "balance of nature," as reported in the Senate Report: "In hearings before the Subcommittee on the Environment it was

shown that many of these animals perform vital biological services to maintain a 'balance of nature' within their environments" (Senate Report No. 93-307, July 1, 1973). The record includes a number of statements by Senators and Representatives emphasizing self-sustaining populations in their natural ecosystems: "restore them to a meaningful role in their and our environment" (Representative Grover, September 18, 1973); we have so altered natural habitats that "they are unsuitable environments for natural populations of fish and wildlife" (Senator Tunney, July 24, 1973); and "[t]he goal of the endangered species program is to . . . preserve [species] in their natural ecosystems . . . [and] restore such species to the point at which it is once again a viable component of its ecosystem" (Representative Sullivan, March 15, 1976)).

Past agency practice has been consistent with this understanding of statutory direction and Congressional intent. Since passage of the ESA in 1973, the practice of both the USFWS and NMFS has been to base viability assessments on naturally reproducing populations, both in making listing determinations and establishing delisting goals. In deciding to list Kootenai River white sturgeon (Acipenser transmontanus), the USFWS considered local recovery plans that included supplementation but concluded that "captive production and supplementation can be valid conservation tools and assist in recovery efforts, [but] they, by themselves, do not contribute to the maintenance of a secure, self-sustaining Kootenai River white sturgeon population in the wild" (59 FR 45989, September 6, 1994). Atlantic salmon (Salmo salar) were listed jointly by the USFWS and NMFS. The agencies state in the final listing determination that "hatchery populations are vital to compensate for the prolonged period of low adult returns, but they are not counted as part of the recovery goal. That goal is based upon wild spawners returning" (65 FR 69459, November 17, 2000). The USFWS recovery plan for Lahontan cutthroat trout (O. clarki henshawi) states that the species will be considered for delisting when the measures are in place to enhance and protect the habitat required "to sustain appropriate numbers of viable self-sustaining populations" (Recovery Plan for the Lahontan Cutthroat Trout, January 1995).

Based on this background, NMFS understands the goal of the ESA to be the preservation of self-sustaining naturally reproducing populations in their natural habitats. Under this view, the intent of the ESA would not be realized if natural populations were not viable and the production of ESU fish

depended on salmon being artificially spawned and reared as juveniles in a hatchery, since the population would be absent from its native ecosystem for a substantial portion of its life cycle.

What does the ESA say about the use of artificial propagation?

Section 3(3) of the ESA defines "conservation" as "the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary. Such methods and procedures include, but are not limited to . . . propagation."

In Section 4(b) of the ESA, Congress requires that a determination of whether a species is threatened or endangered be made "solely on the basis of the best scientific and commercial information available" after conducting a status review and taking into account those efforts being made to protect the species by, among other things, "conservation practices". Conservation practices, as noted above, may include artificial propagation.

Can artificial propagation contribute to naturally spawning self-sustaining salmonid populations over the long term?

NMFS considers this question to be currently unanswered. There is no substantial scientific information of which NMFS is aware that would demonstrate whether Pacific salmon can be successfully sustained in their natural ecosystems over the long term through artificial propagation. NMFS is aware that supplementation has been shown to be effective in bolstering the numbers of naturally spawning fish in the short term under certain conditions. However, the premise that salmon supplementation can be used to provide a net long-term benefit to natural populations is an hypothesis which is being tested, but which is not yet scientifically proved or disproved. In reviewing the literature available on this subject, NMFS has identified 33 completed and published studies which are particularly relevant to this question (see the enclosed Appendix, or visit http:\\www.nwr.noaa.gov\HatcheryListingPolicy\References.html for a summaries of, and the complete citations for, these studies). However, these studies do not appear to form an adequate basis for answering this question due to a lack of adequately controlled empirical data (e.g., Miller et al. 1990; Waples et al. in press). Even

less certain is the hypothesis that supplementation can return an entire salmon or steelhead ESU to self-sustainability. However, this does not mean that artificial propagation cannot provide this type of benefit; the agency remains open to the future possibility.

Discussion of Proposed Policy

NMFS proposes to interpret the ESA as requiring that listing determinations for salmon species be based on whether they are likely to be self-sustaining in their natural ecosystems. Natural spawning and rearing are essential to both the long-term fitness of salmon populations and to the proper functioning of the ecosystem. NMFS will first identify whether a group of salmon or steelhead populations represents a "species" (or ESU). NMFS will evaluate the results of the status review for an ESU and determine whether the ESU is at risk of extinction, or if it is likely to become so within a foreseeable period of time. In making listing determinations, the ESA also requires NMFS to take into account those efforts being made, by any State or foreign nation, to protect the species (ESA Sec. 4(b)(1)(A)). To properly consider artificial propagation in future listing determinations, NMFS will include hatchery programs in its consideration of such protective efforts.

ESU Delineation

In determining whether a group of populations constitutes an ESU, NMFS will follow its 1991 ESU policy (56 FR 58612; November 20, 1991) that an ESU of the biological species, whether composed of hatchery and/or natural populations, must satisfy two criteria: (1) it must be substantially reproductively isolated from other conspecific population units; and (2) it must represent an important component in the evolutionary legacy of the species. Only Pacific salmonid populations that meet these criteria will be considered by the agency for listing under the ESA.

In most past status reviews NMFS first identified the natural populations comprising an ESU, and then determined the status of these populations. Subsequently, NMFS considered which hatchery populations were closely related to the naturally spawning portion of the ESU, represented an important component in the evolutionary legacy, and thus were also part of the ESU. To properly consider artificial propagation in ESA listing

determinations, NMFS proposes to now determine, as part of the status review, which hatchery populations are part of the ESU. A key feature of the ESU concept is the recognition of genetic resources that represent the ecological and genetic diversity of the species. Including hatchery populations in the initial considerations of ESU delineation properly recognizes that these genetic resources may reside in hatchery fish as well as in naturally spawned fish.

In applying the ESU policy and identifying those hatchery populations that are part of an ESU, NMFS is mindful of two types of risks. An overly restrictive approach to determining whether a hatchery population should be included in an ESU risks excluding potentially important genetic resources and may unnecessarily limit biologically appropriate recovery options if the ESU is listed. Conversely, an overly inclusive approach risks including hatchery populations that are not genetically similar to the native natural population, and so, if they or their progeny spawn naturally, would reduce the fitness of the natural population. Either type of error may adversely affect the long-term viability of a listed species.

Mindful of these risks, and consistent with the ESU policy, NMFS will consider a hatchery population as part of an ESU only if it is representative of the ecological and genetic diversity of the ESU, and if it has not diverged appreciably from the parent population. Short of empirical genetic data, a good indication of such divergence is whether the hatchery population exhibits traits (e.g., size and age at return, spawning time, etc.) that are appreciably different from the naturally spawned fish adapted to the area, and the traits are demonstrated to be genetically based rather than an artifact of the hatchery rearing environment. Other important factors that may indicate divergence are: the length of time the hatchery population has been isolated and the degree of domestication selection; the degree to which natural broodstock has been regularly incorporated into the hatchery population; the history of incorporating non-ESU fish or eggs into the hatchery population; the attention given to genetic considerations in selecting and mating broodstock; and the use of genetic engineering or cytological manipulation. If there is evidence that a hatchery population has diverged appreciably from the natural state, or there is substantial uncertainty about its lineage, the hatchery population will not be considered part of the ESU. This approach errs on the side of the species, recognizing the greater potential negative consequences of assessing status

after wrongly including a hatchery population in the ESU, rather than wrongly excluding it from the ESU.

ESA Status Reviews

There is strong scientific evidence that natural spawning and rearing of salmon is essential to ensure the long-term fitness of the species, and to ensure the proper functioning of the ecosystem. Statutory and Congressional intent support an interpretation that maintain species in their natural ecosystems throughout their life cycle. Therefore, NMFS interprets the ESA as requiring the preservation of self-sustaining species in their natural ecosystems. As in past status reviews, the best evidence that an ESU is self-sustaining is the long-term performance of the naturally spawning portion of an ESU. NMFS' status review will therefore examine the current circumstances of, and future prospects for, the naturally spawning populations within an ESU. In addition to an evaluation of current performance, status reviews will also include descriptions of the factors for decline, and pertinent artificial propagation efforts in an ESU. NMFS will use the latter descriptions in evaluating existing protective efforts to make its listing determinations.

Consideration of Hatchery Programs as Protective Efforts

In considering artificial propagation as a potential protective effort, NMFS does not mean to suggest that a strong hatchery population would, by itself, be a reason to decide that listing is not warranted. Rather, the inquiry is whether a hatchery program, as a protective effort in combination with other such efforts being made to address factors for decline, makes it likely the ESU will be self-sustaining into the future. In making this inquiry, NMFS must evaluate the benefits, risks, and uncertainties posed by artificial propagation.

In accordance with the PECE policy, NMFS will evaluate the likelihood that artificial propagation and other protective efforts will be effective in promoting the self-sustainability of the species, and that they will be reliably implemented. Hatchery production in an ESU could therefore be considered as a protective effort potentially mitigating the risk of extinction or the likelihood of endangerment, provided NMFS has information demonstrating a high likelihood that the protective benefits to the species will be realized.

The potential protective benefits of hatchery production must also be evaluated in the context of other factors for

decline in the ESU (such as habitat degradation, overutilization, disease or predation, inadequate regulatory mechanisms, or other natural or manmade factors). For example, attempts were made to buffer the extinction risk for the Gila topminnow (Poeciliopsis occidentalis occidentalis) by the establishment of artificial habitats and a captive breeding program. However, harmful effects from alien fish species and continued degradation of the fish's natural habitat (Simons et al. 1989) have severely diminished the potential positive contribution of artificial propagation efforts to species preservation (Carroll et al. 1996). The hatchery populations within an ESU could potentially affect a listing determination by the provision of a genetic reserve, by demonstrable success in the supplementation of sustainable natural reproduction in the natural ecosystem, and/or by demonstrable success of hatchery reforms in mitigating previous adverse effects of hatchery production.

In those ESUs where hatchery populations are present at the time of a listing determination, NMFS will consider whether an artificial propagation programs within an ESU should be taken into account as a protective effort (as per ESA Section 4(b)(1)(A), and consistent with the PECE policy). The following factors are relevant to making that determination:

(1) The extent to which the hatchery population(s) is(are) representative of the range in behavior for the life-history type(s) of concern in the ESU. For example, the range in run timing for a hatchery spring-run or fall-run population should be representative of the natural population, and not be indicative of substantial directional selection due to insufficient broodstock sampling or mating procedures.

(2) The artificial propagation program must A) act to preserve an ESU's genetic resources, or B) demonstrate that it is benefiting and contributing to the abundance, productivity, distribution, and diversity of naturally spawning fish in the ESU over the long-term.

(3) Whether the hatchery is operated in a manner consistent with the best management practices (as specified in the NMFS guidance, in effect at the time of the listing decision). Such a hatchery will minimize risks to the naturally spawning populations, as well to populations in any ESUs listed under the ESA.

(4) Whether there must be information demonstrating a high likelihood that the protective benefits of such efforts will be realized.
(5) Whether there are adequate monitoring, evaluation, and corrective procedures in place to assure that any adverse effects will be effectively detected, diagnosed, and remedied. Part of an effective monitoring and evaluation program is the inclusion of methods for discriminating between hatchery and natural fish in evaluating status and trends.

In addition to specific artificial propagation programs qualifying as protective efforts, the reform of harmful hatchery practices affecting an ESU may also be considered a protective effort. In addition to the considerations in (3)-(5) above, hatchery reform(s) may be considered a protective effort if it is found that the prior hatchery practices were a substantial factor in the decline of the ESU, and that the reform(s) will largely eliminate that adverse effect.

Any benefits derived from a hatchery program or the reform of harmful hatchery practices as protective efforts, must be considered in the context of other protective efforts and the predominant limiting factor(s) for an ESU. Artificial propagation cannot serve as a substitute for the protective efforts necessary to address other factors for decline limiting an ESU (such as habitat degradation, overutilization, disease or predation, inadequate regulatory mechanisms, or other natural or manmade factors).

Other Considerations

Although NMFS believes that its statutory and regulatory obligations to ESA listed species are not reduced by other Federal laws and agreements affecting Pacific salmon, the manner in which the Act is applied must be informed by such actions. First and foremost among these agreements are the treaties and trust responsibilities the Federal government has undertaken with Indian tribes in the West. In many instances treaties are specific about assuring tribal members hunting and fishing in usual and accustomed places, particularly for salmon, which is central to the traditional culture of many tribes. Additionally, the establishment of mitigation hatcheries (e.g., Mitchell Act hatcheries, Lower Snake River Compensation Plan hatcheries), was based on the policy decision that hatchery production, to some extent, could replace or replenish natural

production lost due to the building of dams and the subsequent inaccessibility of historical habitat. Similar purposes have led state and tribal governments to establish hatcheries, and today there are over 180 salmon hatcheries in California and the Northwest. There is the clear expectation that there will be a substantial and sustained tribal and recreational harvest of Pacific salmon and steelhead. NMFS remains committed to its goal of providing sustainable fisheries, and the agency believes that hatcheries in general can be managed responsibly and in a manner consistent with salmon and steelhead recovery under the ESA.

The Court's ruling in the Alsea decision prescribed that NMFS shall not list only a portion of an ESU when making its ESA listing determinations. The response proposed in this policy, that both hatchery and natural populations within an ESU will be listed if it is determined that the ESU warrants listing, presents some challenges to hatchery and fisheries management. While this proposed policy requires NMFS to list all populations within a threatened or endangered ESU, the ESA does not require NMFS to implement protective regulations equally among populations within an ESU. In administering the ESA for listed ESUs containing hatchery and natural populations, NMFS will ensure that the protections afforded by sections 7, 4(d), and 9 will be applied appropriately for all listed populations. This does not mean, however, that these protections will apply to hatchery populations exactly as they will to natural populations.

Additionally, NMFS remains concerned about the potential for artificial propagation to harm naturally spawning populations of salmon and steelhead. NMFS will separately offer guidelines for hatchery operations to assure that the artificial propagation of salmon stocks will not undermine recovery efforts. NMFS will invite tribal and state involvement and public input in the development and issuance of these guidelines.

Proposed Policy

NMFS will continue making listing determinations for Pacific salmon and steelhead ESUs based on the likelihood that an ESU is self-sustaining in its natural ecosystem, and will be into the future. NMFS will list hatchery populations under the ESA when they are part of an ESU that NMFS determines warrants listing. However, NMFS also recognizes the need to more explicitly

consider the net effects of artificial propagation when evaluating protective efforts in the course of making listing determinations. NMFS will conduct its status reviews, consideration of protective efforts, and listing determinations as follows:

1. Identify the geographic boundaries of the ESU and determine which hatchery populations are part of the ESU.

NMFS reaffirms its 1991 ESU policy (56 FR 58612; November 20, 1991) that an ESU of the biological species, whether composed of hatchery and/or natural populations, must satisfy two criteria: (1) it must be substantially reproductively isolated from other conspecific population units; and (2) it must represent an important component in the evolutionary legacy of the species. Only Pacific salmonid populations that meet these criteria will be considered by the agency for listing under the ESA. To more fully consider artificial propagation in ESA listing determinations, NMFS proposes to now determine which hatchery populations are part of the ESU as part of the status review, prior to making an ESA listing determination. A key feature of the ESU concept is the recognition of genetic resources that represent the ecological and genetic diversity of the species. NMFS believes that including hatchery populations in the initial considerations of ESU delineation more fully recognizes that these genetic resources may reside in hatchery fish as well as in naturally spawned fish.

Consistent with the ESU policy, to be considered part of the ESU a hatchery population must be representative of the evolutionary lineage of the ESU, and it must not have diverged appreciably from the parent population in measurable biological characteristics. If there is evidence that a hatchery population has diverged appreciably from the natural state, or there is substantial uncertainty about its lineage, the hatchery population will not be considered part of the ESU.

2. Review the Status of the ESU

NMFS interprets the ESA as requiring the preservation of self-sustaining species in their natural ecosystems. The best evidence that an ESU is self-sustaining is the long-term performance of the naturally spawning portion of an ESU. NMFS' status review will therefore examine the current circumstances of the naturally spawning populations within an ESU. In addition to an evaluation of current performance, status reviews will also include a description of the factors for decline, and

pertinent artificial propagation efforts in an ESU. NMFS will use the latter descriptions in evaluating existing protective efforts in making its listing determinations.

3. Evaluate existing protective efforts, assess extinction risk or likelihood of endangerment, and make a listing determination

If the naturally spawning portion of an ESU is determined to be not self-sustaining or likely to become not self-sustaining, the agency will then assess the level of extinction risk or the likelihood of endangerment for the ESU, and determine whether it should be listed as an "endangered" or "threatened" species under the ESA. As part of this assessment, the ESA requires that the agency consider those efforts being made by any State or foreign nation to protect the species (ESA Sec. 4(b)(1)(A)). NMFS will consider artificial propagation in its ESA listing determinations by evaluating the benefits and risks of ESU hatchery programs in the context of such protective efforts. NMFS will consider protective efforts in its ESA listing determinations in accordance with the joint NMFS/USFWS Policy on Evaluating Conservation Efforts (the "PECE policy"; XX FR XXXXX; XXXX XX, 2002).

In those ESUs where hatchery populations are present at the time of a listing determination, NMFS will consider artificial propagation programs within an ESU as a protective effort consistent with the PECE policy. Any benefits derived from a hatchery program or the reform of harmful hatchery practices as protective efforts, must be considered in the context of other protective efforts and the predominant limiting factor(s) for an ESU. Artificial propagation cannot serve as a substitute for the protective efforts necessary to address other factors for decline limiting an ESU (such as habitat degradation, overutilization, disease or predation, inadequate regulatory mechanisms, or other natural or manmade factors).

Request for Comments

NMFS intends that the final policy be as accurate and scientifically sound as possible and that it take advantage of information and recommendations from all interested parties. Therefore, comments and suggestions from the public, other concerned governmental agencies, tribal governments, the scientific community, industry, or any other party concerning this proposed policy are hereby solicited (see DATES and

ADDRESSES). In addition, NMFS has scheduled XX public meetings on this proposed policy to provide the opportunity for the public to give comments and to permit an exchange of information and opinion. NMFS encourages the public's involvement in such ESA matters. Written comments on the proposed policy should be submitted to NMFS by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN FEDERAL REGISTER] (see ADDRESSES and DATES). The final decision on this policy is expected to be published by XXXXXX 2002 and will take into consideration the comments and any additional information received by NMFS. Such communications may lead to a decision that differs from this proposal.

References

A complete list of all cited references is available upon request (see ADDRESSES) or via the internet at XXXXXX.

Authority: 16 U.S.C. 1531 et seq.
Dated: XXXXX
[signed]
National Marine Fisheries Service.